



STRUCTURAL FIBERGLASS

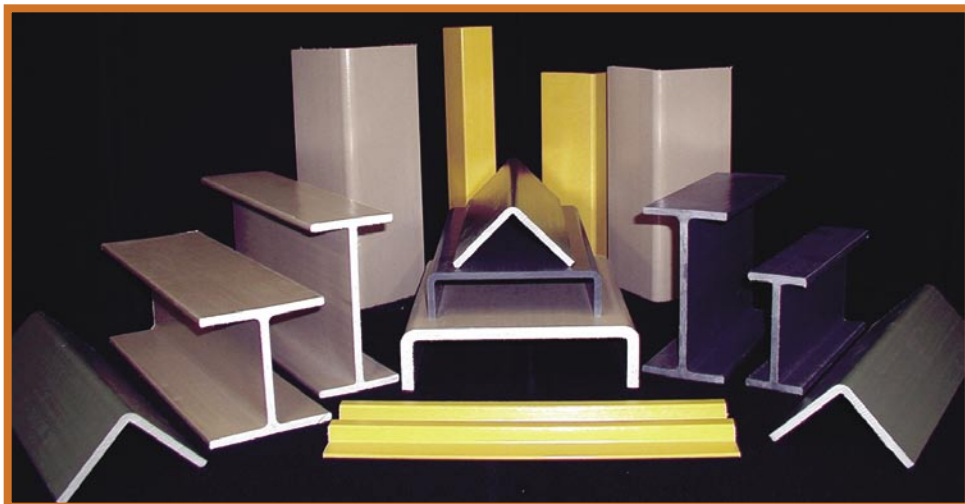
• VERSATILE

• STRONG

• EASY TO INSTALL

• EASY TO MAINTAIN

STRUCTURAL FIBERGLASS PROFILES



Fort Dodge Steel is an authorized distributor of Bedford Reinforced Plastic products in the Midwest. Fiberglass Reinforced Plastics (FRP) has emerged as a leading alternative to wood, steel, and aluminum in wet, corrosive, and acidic environments. FRP is produced in similar profiles to steel, but fabricates more like wood using wood saws, drills, and simple fabrication equipment. FRP is perfect for replacing, retrofitting or starting a new build project of walkways, platforms, handrails, ladders, grating, and structural framing. We keep most of the basic profiles in stock and can guarantee delivery of many other common profiles within five days of order.

Call us at **800-362-2715** for product availability.



Applications

- Stair Structures
- Walkways
- Structural Framing
- Handrail Systems
- Platforms
- Caged & Fixed Ladders
- Water Treatment
- Decking

Features

- Non-Corrosive
- Does Not Rust or Rot
- Lower Life Cycle Cost
- Easy to Fabricate and Install
- Lightweight/High Strength
- High Impact Strength
- Dimensionally Stable
- Flame Retardant
- Electrically Non-Conductive
- Low Water Absorption
- Non-Leeching

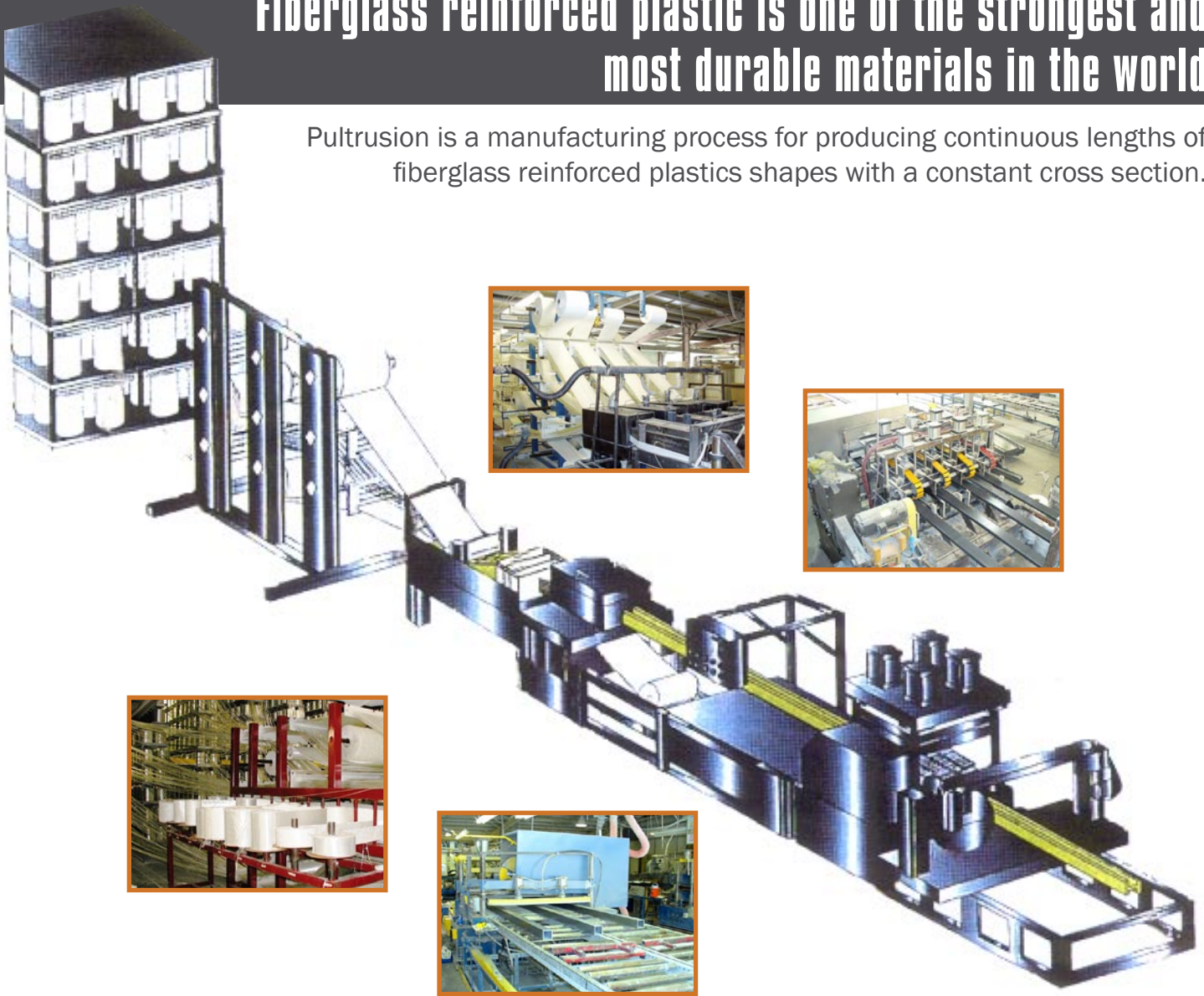
Design Services

- Engineering
- Site Visits
- Custom Fabrication
- 'Kitted' Shipments



Fiberglass reinforced plastic is one of the strongest and most durable materials in the world

Pultrusion is a manufacturing process for producing continuous lengths of fiberglass reinforced plastics shapes with a constant cross section.



1 Creels of unidirectional roving provide longitudinal tensile strength or the strength along the length of the profile.

2 Rolls of continuous filament mat, woven roving, or stitched fabric provide the profile with its transverse properties or its strength across the width of the profile.

3 All reinforcements are first fed through pre-forming guides that will begin to shape the raw glass fibers in to the finished profile.

4 The glass is then pulled into a resin bath that saturates or “wets out” the reinforcements.

5 The resin bath contains a mixture of resin, most commonly polyester or vinylester, pigments to add color, filler to enhance properties, and a catalyst to aid in curing or to turn it from a liquid to a solid.

6 Surfacing veil is added to give the profile a resin rich surface and enhance the appearance of the final product.

7 The wet out reinforcements now enter the heated pultrusion die. The heat begins the thermosetting reaction process the cures the finished profile

8 The cured profile is now advanced by a caterpillar style puller to the cut off saw where it will be cut to its final length.

9 The finished product is now put into inventory at one of our warehouses, sent to our state of the art fabrication center for secondary processing, or crated for shipment to the customer.

Product Availability List

EQUAL ANGLES

Size in Inches	Lbs./Lin FT	STOCKED	NONSTOCKED
1 x 1/8	0.19	STD, FR, VE	
1 1/2 x 3/16	0.44	STD, FR	
1 1/2 x 1/4	0.54	STD, FR, VE	
2 x 1/4	0.74	STD, FR, VE	
3 x 1/4	1.12	STD, FR, VE	
3 x 3/8	1.64	STD, FR, VE	
3 x 1/2	2.09		
4 x 1/4	1.51	STD, FR, VE	
4 x 3/8	2.21	STD, FR, VE	
4 x 1/2	2.92	STD, FR, VE	
6 x 4 x 1/2**	3.65	STD, FR	
6 x 3/8**	3.34	STD, FR, VE	
6 x 1/2**	4.43	STD, FR, VE	

**Stocked in FR 20' & 25'

CHANNELS

2 x 9/16 x 1/8	0.28	STD, FR	
3 x 7/8 x 1/4	0.78	STD, FR,	
3 x 1 x 1/4	0.85	STD, FR, VE	
3 x 1 1/2 x 1/4	1.03	FR	
3 1/2 x 1 1/2 x 3/16*	0.92	STD, FR	
4 x 1 1/8 x 1/4	1.12	STD, FR, VE	
4 x 1 3/8 x 3/16	0.94	STD, FR	
5 x 1 3/8 x 1/4	1.47		
5 1/2 x 1 1/2 x 1/4*	1.52	STD, FR	
6 x 1 5/8 x 1/4	1.68	STD, FR, VE	
6 x 1 11/16 x 3/8	2.50	STD, FR, VE	
8 x 2 3/16 x 1/4*	2.27	STD	
8 x 2 3/16 x 3/8	3.31	STD, FR, VE	
10 x 2 3/4 x 1/2**	5.58	STD, FR, VE	
11 1/2 x 2 3/4 x 1/2	5.58		
12 x 3 x 1/2	6.35		
14 x 3 1/2 x 3/4	10.96		

*Stocked in FR 24'

**Stocked in FR 20' & 25'

I-BEAM

3 1/2 x 1 1/2 x 3/16	1.12	FR	
4 x 2 x 1/4	1.58	STD, FR, VE	
5 1/2 x 2 x 1/4	2.03	FR	
6 x 3 x 1/4	2.52	STD, FR, VE	
6 x 3 x 3/8	3.53	FR, VE	
8 x 4 x 3/8	4.36	STD, FR, VE	
8 x 4 x 1/2**	5.79	FR, VE	
10 x 5 x 3/8	5.56		
10 x 5 x 1/2**	7.24	FR, VE	
12 x 6 x 1/2**	8.90	FR, VE	
18 x 3/8 x 4 1/2 x 1/2	8.55		
24 x 3/8 x 7 1/2 x 3/4	15.10		

**Stocked in FR & VE 20' & 25'

WF-BEAM

Size in Inches	Lbs./Lin FT	STOCKED	NONSTOCKED
3 x 3 x 1/4	1.71	STD, FR, VE	
4 x 4 x 1/4	2.36	STD, FR, VE	
6 x 6 x 1/4	3.48	STD, FR, VE	
6 x 6 x 3/8	5.21	STD, FR, VE	
8 x 8 x 3/8	6.78	FR, VE	
8 x 8 x 1/2**	8.78	FR, VE	
10 x 10 x 3/8	8.57		
10 x 10 x 1/2**	11.02	FR, VE	
12 x 12 x 1/2**	13.69	FR, VE	

**Stocked in FR 20' & 25'

FLAT SHEET

1/8 x 48 x 96*	1.30	STD, FR, VE	
3/16 x 48 x 96*	1.83	STD, FR, VE	
1/4 x 48 x 96*	2.42	STD, FR, VE	
3/8 x 48 x 96*	3.43	STD, FR, VE	
1/2 x 48 x 96	4.85	STD, FR, VE	
5/8 x 48 x 96	5.86		
3/4 x 48 x 96	6.82		
1 x 48 x 96	8.75		

*144" Lengths also available in STD Resin only

FLAT SHEET

2 1/2 x 3/16			
3 x 1/4			
3 x 3/8		FR	
3 x 1/2		FR	
4 x 1/8			
4 x 1/4			
4 x 1/2			
6 x 1/4			
6 x 1/2			
9 x 1/4			
10 x 1/4			
11 x 1/4			
12 x 1/4			
20 x 3/16			
20 x 1/4			
24 x 1/8			
24 x 1/4			

FLAT BAR

5/8 x 1/4			
3/4 x 1/4			
1 x 1/8			
1 1/4 x 3/16			
1 3/4 x 1/4			
2 x 1/2			

SQUARE BAR

1 x 1	0.81	STD WHITE	
1 1/4 x 1 1/4	1.71	STD YELLOW	
1 1/2 x 1 1/2	1.90	STD YELLOW	

SQUARE TUBE

Size in Inches	Lbs./Lin FT	STOCKED	NONSTOCKED
1 x 1/8	0.34	STD, FR, VE	
1 1/4 x 1/8			
1 1/4 x 1/4	0.74		
1 1/2 x 1/8	0.55	STD, FR*, VE**	
1 1/2 x 1/4	0.98	FR*, VE**	
1 3/4 x 1/8	0.61	FR***, VE***	
1 3/4 x 1/4	1.13	FR*, VE***	
2 x 1/8	0.70	STD, FR*, VE**	
2 x 1/4	1.38	STD, FR*, VE**	
2 1/4 x 1/8	0.87	FR***	
2 1/4 x 1/4	1.67		
2 1/2 x 1/4	1.77	STD, FR	
3 x 1/8	1.09		
3 x 1/4	2.13	STD, FR, VE	
3 x 3/8	3.02		
3 1/2 x 1/4	2.59	STD, FR	
4 x 1/4	2.97	STD, FR, VE	
4 x 3/8	4.28	STD, FR	
6 x 1/4			
6 x 3/8	6.48	STD, FR	

THREADED ROD & NUTS

3/8-16 UNC	0.09	VE GRAY	
1/2-13 UNC	0.14	VE GRAY	
5/8-11 UNC	0.23	VE GRAY	
3/4-10 UNC	0.33	VE GRAY	
1-8 UNC	0.50	VE GRAY	

Threaded Rod available in 48" & 96" lengths
Square Nuts & Hex Head Nuts available

EMBEDMENT ANGLE

1 x 1 1/2 x 1/4		VE GRAY	
1 1/2 x 1 1/2 x 1/4		VE GRAY	
2 x 1 1/2 x 1/4		VE GRAY	

HANDRAIL CONNECTORS

4 1/4 x 1 1/4 Fixed	0.87	STD YELLOW	
4 1/2 x 1 1/2 Fixed	1.32	STD YELLOW	
4 1/4 x 1 1/4 Adjust.	0.87	STD YELLOW	
4 1/2 x 1 1/2 Adjust.	1.32	STD YELLOW	

RECTANGULAR TUBE

4 x 1 x 1/8	0.92	FR	
4 x 1/8 x 2 x 1/4	1.52	STD, FR, VE	
4 x 2 x 1/4	1.58		
4 3/8 x 1 3/8 x 1/8 x 1/16			
5 x 2 x 1/8	1.24		
5 1/8 x 2 1/8 x 3/16	1.83		
6 x 4 x 1/4	3.77	FR*	
6 1/2 x 1/4 x 2 x 1/2	3.56		

*Stocked in FR 20' & 25' lengths

ROUND TUBE

Size in Inches	Lbs./Lin FT	STOCKED	NONSTOCKED
1 x .100			
1 x 1/8	0.28	STD, FR	
1 1/4 x 1/4	0.60		
1 1/2 x 1/8	0.39	STD, FR	
1 1/2 x 1/4	0.83	FR	
1 3/4 x 1/8	0.54		
1 3/4 x 1/4	0.93		
2 x 1/8	0.70		
2 x 1/4	1.06	STD, FR	
3 x .100	0.70		
3 x 1/4	1.72		
3 x 1/2	3.07	STD	
4.89 x 1/8	1.81		
4.89 x 3/16	2.97		

SPECIAL SHAPES

Door Frame			
5 3/4 x 2 5/8 x 3/16	1.63	STD WHITE	

Toe Plate			
4 x 5/8 x 1/8		FR*, VE*	

Ladder Rung			
1.25 x .160		FR*, VE*	

Threshold			
5 1/2 x 1/4	1.07		

Channel Flight/Gray			
3 x 6 x 1/8 x 3/16	1.34	STD - Drk Gray	
3 x 8 x 1/8 x 3/16	1.48	STD - Drk Gray	

Angle Flight/Gray			
6 x 1/8 x 3 x 1/4			
8 x 1/8 x 3 x 1/4			

12" Building Panel			
12" x 1 25/32 x 3/32			

Corner Column			
7 27/32 x 7 27/32 x 3/8			

Center Column			
10 27/32 x 7 27/32 x 3/8			

Deck Board			
12 x 2 1/8 x 3/16**	2.93		
24 x 1 1/8 x various thickness**			
24 x 1 1/2 x .175**	5.49		

* Stocked in FR & VE Yellow Only
** Deck Board is stocked in FR Dark Gray with and without Grit Top Surface

ROD

1/8	0.01	STD	
3/16	0.02	STD	
1/4	0.04	STD	
5/16	0.07	STD	
3/8	0.10	STD, VE	
1/2	0.16	STD, VE	
5/8	0.26	STD, VE	
3/4	0.38	STD, VE	
7/8			
1	0.67	STD, VE	
1 1/4	0.99	STD	
1 1/2	1.51	STD, FR	
2			

NOTE: All Stock Lengths are 20' unless otherwise noted.

Resin Series

STD - Standard Non Fire Retardant Polyester (Olive Green)

FR - Fire Retardant Polyester (Dark Gray & Yellow)

VE - Vinylester Fire Retardant (Beige & Yellow)

Solid Rod is stocked in STD white and VE Gray



